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ART. 3. ANDT.

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1 Claims

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- 3 1. A downhole tool for collecting and retrieving junk  
4 from a well bore, the tool comprising: a cylindrical  
5 body attachable in a work string; a multi-faceted  
6 surface comprising a plurality of projections  
7 arranged at an end of the body for contacting with  
8 and breaking up junk; and a plurality of inlet ports  
9 through which the broken up junk passes into a trap  
10 for collection, wherein each projection is located  
11 between adjacent inlet ports.  
12
- 13 2. A downhole tool as claimed in Claim 1 wherein the  
14 projections each include a plurality of tungsten  
15 carbide coated surfaces.  
16
- 17 3. A downhole tool as claimed in any preceding Claim  
18 wherein the tool further includes a sleeve located  
19 around the body, the sleeve including filter means  
20 for filtering debris from fluid passing there  
21 through.  
22
- 23 4. A downhole tool as claimed in Claim 3 wherein a trap  
24 is provided in an annular space between the body and  
25 the sleeve.  
26
- 27 5. A downhole tool as claimed in any preceding Claim  
28 wherein the ports have a flow path parallel to a  
29 longitudinal axis of the tool.  
30
- 31 6. A downhole tool as claimed in any preceding Claim  
32 wherein each inlet port includes a valve.

- 1 7. A downhole tool as claimed in any one of Claims 3 to  
2 6 wherein the tool includes a throat, the throat  
3 being located adjacent to the projections and having  
4 a diameter narrower than a diameter of the sleeve.  
5
- 6 8. A downhole tool as claimed in any preceding Claim  
7 wherein the cylindrical body includes an axial bore  
8 to permit fluid flow through the work string.  
9
- 10 9. A downhole tool as claimed in Claim 7 wherein the  
11 tool includes one or more milling elements located  
12 adjacent the throat and distal to the inlet ports.  
13
- 14 10. A method of collecting and retrieving junk within a  
15 well bore, comprising the steps:  
16
- 17 (a) providing a multi-faceted contact surface on a  
18 work string, the surface including a plurality  
19 of projections and a plurality of inlet ports,  
20 each projection being located between adjacent  
21 inlet ports;
- 22 (b) breaking up large pieces of junk by contact with  
23 the surface;
- 24 (c) collecting the broken-up junk through the inlet  
25 ports; and
- 26 (d) storing the broken-up junk in a trap adjacent  
27 the inlet ports.  
28
- 29 11. A method as claimed in Claim 10 wherein the method  
30 includes the steps of providing a mill ahead of the  
31 surface and jetting milled junk from the mill towards  
32 the inlet ports.  
33

- 1 12. A method as claimed in Claim 10 or Claim 11 wherein
- 2 the method includes the step of operating one or more
- 3 valves at each inlet port to prevent the broken-up
- 4 junk from exiting the trap.
- 5